

What is Claimed is:

1. A cellular system using a direct spread code division multiple access system, in which a mobile station performs soft handover with plural base stations, said mobile station comprising:

downward reception quality monitoring means for monitoring reception quality of downward signals from the plural base stations that are in the soft handover state;

base-station specifying means for sending a signal to specify a base station or stations to transmit according to the result of monitoring the reception quality of the plural downward signals;

multiplexing means for multiplexing the base-station specify signal into an upward signal to be sent to said plural base stations; and

reception means for performing combined reception of receive signals from said plural base stations that are in the soft handover state, and

said base stations each comprising:

demodulation means for demodulating the base-station specify signal multiplexed in the upward signal; and

transmission control means for controlling transmission of a downward transmit signal to a corresponding mobile station according to the demodulated base-station specify signal.

2. The cellular system according to claim 1, wherein said downward reception quality monitoring means of said

mobile station measures reception quality using a pilot channel transmitted from each of said base stations to all the mobile stations constantly.

3. The cellular system according to claim 1, wherein said transmission control means of said base station stops transmission when the base-station specify signal is not directed to its own base station.

4. The cellular system according to claim 3, wherein said transmission control means of said base station performs transmission when the base-station specify signal is directed to its own base station or a transmission error in the base-station specify signal is detected.

5. The cellular system according to claim 1, wherein said base station specifying means of said mobile station specifies plural base stations when the differences of downward reception quality of all the base stations is smaller than a predetermined value. \*

6. The cellular system according to claim 1, wherein said base station specifying means of said mobile station specifies plural base stations when downward reception quality of all the base stations is smaller than a predetermined value.

7. In a cellular system using a direct spread code division multiple access system, a mobile station used in the cellular system for performing soft handover with plural base stations, comprising:

downward reception quality monitoring means for

monitoring reception quality of downward signals from the plural base stations that are in the soft handover state;

base-station specifying means for sending a signal to specify a base station or stations to transmit according to the result of monitoring the reception quality of the plural downward signals;

multiplexing means for multiplexing the base-station specify signal into an upward signal to be sent to said plural base stations; and

reception means for performing combined reception of receive signals from said plural base stations that are in the soft handover state.

8. The mobile station according to claim 7, wherein said downward reception quality monitoring means of said mobile station measures reception quality using a pilot channel transmitted from each of said base stations to all the mobile stations constantly.

9. The mobile station according to claim 7, wherein transmission control means of each of said base stations stops transmission when the base-station specify signal is not directed to its own base station.

10. The mobile station according to claim 9, wherein said transmission control means of said base station performs transmission when the base-station specify signal is directed to its own base station or a transmission error in the base-station specify signal is detected.

11. The mobile station according to claim 7, wherein

said base station specifying means of said mobile station specifies a base station of the best downward reception quality out of the plural base stations and specifies other base stations each having a smaller difference than a predetermined value from the base station of the best quality.

12. The mobile station according to claim 7, wherein said base station specifying means of said mobile station specifies plural base stations when downward reception quality of all the base stations is smaller than a predetermined value.

13. In a cellular system using a direct spread code division multiple access system, a base station, used in the cellular system in which a mobile station performs soft handover with plural base stations, comprising:

demodulation means for demodulating a base-station specify signal multiplexed in an upward signal; and

transmission control means for controlling transmission of a downward transmit signal to a corresponding mobile station according to the demodulated base-station specify signal.

14. The base station according to claim 13, wherein said transmission control means of said base station stops transmission when the base-station specify signal is not directed to its own base station.

15. The base station according to claim 14, wherein said transmission control means of said base station performs

transmission when the base-station specify signal is directed to its own base station or a transmission error in the base-station specify signal is detected.

16. A cellular system using a direct spread code division multiple access system, in which a mobile station performs soft handover with plural base stations,

said mobile station comprising:

reception quality monitoring means for monitoring reception quality of downward signals from the plural base stations that are in the soft handover state and outputting a sub-signal composed of the monitoring results and signals indicative of base stations corresponding to the respective results;

multiplexing means for multiplexing the sub-signal into an upward signal to be sent to said plural base stations; and

reception means for performing combined reception of receive signals from said plural base stations that are in the soft handover state, and

said base stations each comprising:

demodulation means for demodulating the sub-signal multiplexed in the upward signal;

transmission halt signal generating means for generating a transmission halt signal indicating whether or not transmission of downward signals from its own station are to be halted in accordance with the demodulated sub-signal; and

transmission control means for stopping the transmission of downward signals to said mobile station when the

transmission halt signal indicates transmission halt.

17. The cellular system according to claim 16, wherein said reception quality monitoring means of said mobile station measures reception quality using a pilot channel transmitted from each of said base stations to all the mobile stations constantly.

18. The cellular system according to claim 16, wherein said transmission control means of said base station stops transmission when an error in the sub-signal is detected.

19. The cellular system according to claim 16, wherein said transmission halt signal generating means does not output the transmission halt signal when downward reception quality of all the base stations is smaller than a predetermined value and the quality of downward signals from its own station is ranked more than a predetermined grade.

20. In a cellular system using a direct spread code division multiple access system, a mobile station used in the cellular system for performing soft handover with plural base stations comprising:

reception quality monitoring means for monitoring reception quality of downward signals from the plural base stations that are in the soft handover state and outputting a sub-signal composed of the monitoring results and signals indicative of base stations corresponding to the respective results;

multiplexing means for multiplexing the sub-signal into an upward signal to be sent to said plural base stations; and

reception means for performing combined reception of receive signals from said plural base stations that are in the soft handover state.

21. The mobile station according to claim 20, wherein said reception quality monitoring means of said mobile station measures reception quality using a pilot channel transmitted from each of said base stations to all the mobile stations constantly.

22. In a cellular system using a direct spread code division multiple access system, a base station used in the cellular system in which a mobile station performs soft handover with plural base stations, the base station receiving an upward signal from the mobile station with multiplexing therein a sub-signal composed of results of monitoring reception quality of downward signals from the plural base stations put into connection of soft handover to the mobile station and signals indicative of base stations corresponding to the respective monitoring results, said base station comprising:

demodulation means for demodulating the sub-signal;

transmission halt signal generating means for generating a transmission halt signal indicating whether or not transmission of downward signals from its own station are to be halted in accordance with the demodulated sub-signal; and

transmission control means for stopping the transmission of downward signals to said mobile station when the transmission halt signal indicates transmission halt.

23. The base station according to claim 22, wherein said transmission control means of said base station stops transmission when an error in the sub-signal is detected.

24. The base station according to claim 23, wherein said transmission halt signal generating means does not output the transmission halt signal when downward reception quality of all the base stations is smaller than a predetermined value and the quality of downward signals from its own station is ranked more than a predetermined grade.

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